

## ABSTRACT OF THE DISCLOSURE

A system and method for the simulation and modeling of biopharmaceutical batch process manufacturing facilities using process time lines is described herein. The system employs an eleven-field delimited string code which specifies the unit identifier  
5 code and the iteration value for each of the ten levels of nested scheduling cycles of the biopharmaceutical drug production process being modeled. The method includes generating a process time line using operational parameters, a block flow diagram, and a set of scheduling cycles for each of a sequence of unit operations. The process time line is used as a tool for batch processing and facility design.